

ABSTRACT

A new method is provided for the creation of an inductor. Layers of pad oxide, a thick layer of dielectric and an etch stop layer are successively created over the surface of a substrate. The layers of etch stop material and dielectric are patterned and etched, creating an inductor pattern whereby the inductor pattern created in the layer of dielectric is located close to the surface of the layer of dielectric. Optionally, support pillars for the inductor can be created at this time through the layer of dielectric. The inductor pattern in the layer of dielectric is filled with metal, the etch stop layer and the layer of dielectric is removed from above the metal fill, additionally exposing the layer of dielectric. The additionally exposed layer of dielectric is etched using a slope etcher. Since the layer of dielectric is preferably an oxide based layer of dielectric, this exposure will significantly remove the layer of dielectric, creating an air gap surrounding the inductor without affecting the optionally created support pillars or the created inductor.